Project Management Office Reporting

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Background

This project aims to improve the quality of data collected and the process of reporting project data done by Project Management Office (PMO) Project Managers at the South Carolina Department of Health and Environmental Control (DHEC). DHEC's PMO was established in 2015 to provide the coordination, governance, and focus needed to help ensure DHEC teams successfully achieve the desired outcomes for its most complex and critical Strategic Management Plans. Agency Management Plans (or projects) were established and collectively became known as the Agency's Roadmap. PMO is responsible for managing and monitoring the Agency's Roadmap. It is important for the PMO to have accurate and robust reporting in order to appropriately manage the Agency's Roadmap and identify (to be able to address) any resource constraints and/or collisions across projects. Also, having appropriate data available can help to manage stakeholder expectations of the project, which can increase buy-in for the project, potentially leading to more successful project outcomes.

Problem Statement

In July 2018, there were not any standards being enforced or monitored for projects and there was no centralized system for reporting project data within the PMO. By establishing reporting standards and developing a system to collect the data, the PMO can move towards managing resources across the Agency and have an accurate timeline of upcoming events across projects.

Data Collection

The goal of the data collection was to determine what project managers were currently doing as it relates to project schedules and reporting. A new software, Microsoft Project Web Application (PWA), was procured to support the PMO's ability to manage a portfolio of projects.

This tool would allow for data collection in ways that were previously unavailable. To support the implementation of PWA, key stakeholders were brought together to determine any configuration that would be needed for the system to fit DHEC's needs. Configuration was completed by a team comprised of one PMO staff member and one IT staff member. Appropriate software licenses were made available to all project managers, both within the PMO and the Office of Information Technology. While all project managers use the system, this project only focuses on the project managers within the PMO. This tool changed the method in which data was collected.

The following key performance indicators (KPIs) and methods were initially identified for this improvement project:

1) *The number (and percentage) of projects (managed within PMO) that have current project schedules.*
    a. Upon initial roll-out of the PWA software, project managers were asked to upload their current Microsoft Project schedules into the system. They were not asked to edit or enhance the schedule, but rather to simply import their project schedules. The prior PMO Director had established criteria that one of the items all projects should have is a project schedule and provided all project managers with Microsoft Project licenses. Therefore, project schedules should exist for all projects. This approach would also allow for another level of assessment to determine the quality of project schedules and if variations existed across projects as it relates to schedule management.
2) *The number (and percentage) of PMO projects that are tracking resources (people) needed for their project.*

a. An industry accepted method of tracking project resources is to use one of the fields on a Microsoft Project schedule labeled "Resource Names." This field is used to indicate the resource(s) that are responsible for completing the corresponding task and the associated hours of work. As project managers uploaded their schedules into PWA, this field could also be reviewed. If information was not in the project schedule or a project schedule did not exist, similar data could be collected by reviewing other artifacts created by the project manager, such as a project charters, a project RACI (Responsible, Accountable, Consulted, Informed) charts, or other documents. PWA allows for uploading of documentation into project SharePoint Sites.

3) *The number of reports that Project Managers within PMO are manually completing each month.*

   a. Information was collected through reviewing the PMO SharePoint site for the number and type of reports being used and collecting details from project managers. Examples of reports were collected from the SharePoint Site, as well as from different project managers within PMO.

4) *Based on #3, the number of people utilizing the reports completed by the Project Managers.*

   a. This indicator was identified in order to help determine the outcome of indicator #3. For example, it could indicate if all the different reports being completed by the project managers were actually being used and if so, how widely. After collecting data for indicator #3, a method for data collection needed to be established for indicator #4. However, upon review it was

determined that this number would not be feasible to collect nor would it be helpful. While some information can be collected on any project reports that were on a SharePoint site, there was no feasible way to collect the number of people using reports that are being distributed other ways (based on the data collected in metric #3). For example, there was not a way to determine how many times a report that a project manager emailed to a project business area lead was forwarded or printed off and shared with others. Additionally, the number of hits from the SharePoint site may not be helpful, as it is not possible to view the users (specific people) who viewed the reports. For example, a report may have a high number of views because a project manager visited the report 5 times in one day to look for a piece of information. This would not provide useful information in determining how many people are utilizing the reports. While at first glance this KPI may seem important to the project, the data collection efforts were either not worth the amount of work that would be needed to collect the information or simply not available.

Data Analysis

After the data was collected, it was analyzed to determine if there were any trends or patterns. Key findings related to each indicator is outlined in the following section.

KPI 1: The number (and percentage) of projects (managed within PMO) that have current project schedules.

As previously mentioned, data for this indicator was collected by having project managers immediately upload their project schedules into PWA during roll-out. This proved to be an

extremely enlightening approach and initial analysis determined this was a critical gap in the PMO. It quickly became evident, as voiced by several project managers, that some projects did not have a schedule which could be uploaded into PWA or some project managers were trying to quickly create a schedule simply to have something to upload within PWA. Out of the thirty projects in the PMO portfolio in September 2018, only ten projects (30%) had current project schedules. There were a handful of projects that had very high-level timelines, but these would not meet the definition of a project schedule. The second key finding was that projects with a schedule were not using standard formatting or methods. For example, some projects had milestones and deliverables marked, some did not. It is critical that projects across a portfolio be using the same standards to develop schedules in order to be able to perform accurate portfolio management. While it had previously been stated that projects needed to have a schedule, there was little to no accountability on this item. There were no standards established or provided on schedule management.

KPI 2: The number (and percentage) of PMO projects that are tracking resources (people) needed for their project.

Initial analysis determined that the tracking of resources across projects was not being done consistently. For many projects, this indicator is related to indicator #1. If a project did not have a project schedule, then it certainly was not tracking resources using a field in Microsoft Project. Of the ten projects with a current schedule, all ten (100%) had at least one resource listed in the schedule. However, there were no (0%) projects that had resources listed for every task. Additionally, there were no projects (0%) tracking resources with an estimation of hours associated with a task. There was limited consistency across how resources were identified. For example, one project indicated “Project Team” as the resource, while another project listed out

each individual name on the project team. An underlying contributing factor is the lack of an established standard for documenting project resources.

KPI 3: The number of reports that Project Managers within PMO are manually completing each month.

On the PMO SharePoint Site, there were three different reports that each project manager was manually completing at different frequencies. The SITREP and Report Card were each being completed monthly by the project manager. Information included in the reports included risks, issues, upcoming meetings, stoplight indicator, and highlights. There was also a weekly report that included a stoplight indicator and a high-level summary. Some project managers also had other reports that were being created for and distributed outside of the PMO. For example, the Public Health Team Lead was creating a monthly portfolio PowerPoint that was presented in-person and then emailed, while the Health Regulation Team Lead was submitting an electronic spreadsheet each week. Reporting was qualitatively identified as a high pain point for project managers, as it was all manually completed and seemed to contain similar information. One reason for the inconsistency was the lack of a centralized repository which contained all of the different reporting elements. This meant staff were going to different documents to collect data. Additionally, data was being captured at different frequencies (weekly vs. monthly), which caused some of the data to be outdated and sometimes created confusion as to what the actual status was.

Implementation Plan

To address the inconsistencies in schedule management across the PMO several action items were developed. Actions included the development of an enterprise Schedule Management Plan by the PMO Director and a lead Project Manager. This plan will be applied to all projects

and outlines the approach and methodology related to project schedules. This plan was presented to project managers and placed on the PMO SharePoint Site for easy reference. To supplement the schedule management plan, training was developed, and participation was required of all project managers. Additionally, a series of more than twenty schedule management tools were developed, including a weekly checklist to use when publishing a project schedule. All resources are available on the PMO SharePoint Site. For a list of some of the schedule management tools created, see Appendix 1.

Based on the knowledge level and types of questions being asked in the schedule management trainings, it was evident that a significant amount of technical assistance would need to be done in order to support the project managers. Unfortunately, there was no one in PMO (or in the Agency) who was considered a Microsoft Project expert and had experience as a Master Scheduler. Based on the information collected about the project schedule inconsistencies, funding for a part-time temporary position was secured. A Master Scheduler was hired in December to help assess and improve project schedules, provide schedule management technical assistance, and develop reports related to schedule management.

To address the reporting aspect, specific data fields were incorporated into PWA that had previously been captured in other PMO reports, project managers only need to complete five required pieces on a weekly basis: (1) publish their schedule and document (2) risks, (3) issues, (4) key decisions, and (5) accomplishments. All reporting would be submitted by 4:00pm each Thursday, which would ensure that project status timeframes were consistent across projects. This eliminated the need for project managers to enter this information into any other report, for PMO purposes. However, this does not address the creation of reports for staff outside of PMO. In order to address that topic, justification for Microsoft Power BI (Business Intelligence)

software was submitted, approved, and has now been procured. Microsoft Power BI will allow the creation of dashboards directly from the data within PWA. This should eliminate the need for any manual reports in the future.

Evaluation Method

While all projects now have schedules within PWA, which is an initial step forward, it does not necessarily mean that all schedules are current and accurate. In order to evaluate or assess the state of the project schedules, the Master Scheduler and Project Management Director developed a set of sixteen Schedule Management Quality Indicators. These indicators are based on the Project Management Body of Knowledge (PMBOK) and industry best practices. All of these indicators match information that was provided to the project managers in training. The indicators also align with the weekly checklist and other resources available to the project managers. An example of an indicator is a project milestone not marked with a "M:". A complete list of indicators can be found in Appendix B.

In January 2019, the Master Scheduler audited all projects in the PMO portfolio based on the quality indicators. Several of these quality indicators can link back to the key performance indicators of this project. At the time of this schedule management assessment, 60% (18 projects) of projects had current schedules, meaning that they had publish dates that were in line with the most recent due date, which is an increase from the original finding when only 30% of projects had a current schedule. Unfortunately, it indicates that twelve out of thirty projects had not published their schedules in accordance with the standard.

Another key finding from the assessment is that there were 1,490 tasks that were missing resources. One of the original indicators (KPI 2) of this project was the percentage of projects

that are tracking resources. While every project now has at least one resource entered on the project schedule, there are still 23 projects (77%) that have at least one task with a missing resource. But, this also shows that while there were originally zero projects that had resources listed for every task, there are now seven (23%) projects that have resources listed for every task. Therefore, the project schedules are improving their quality, but there is still room for improvement.

Of the sixteen quality indicators, there are a few that are particularly important and can indicate bigger issues. For example, from the overall assessment there were 660 instances of "Late Start" and 904 instances of "Late Finish" across the portfolio of projects. This means there are tasks that have either not started or not finished by the indicated date. For example, a task has a finish date of 1/31/19. If the schedule is published (updated) on 2/4/19 and that task is not marked complete and still has a finish date of 1/31/19, then something is wrong. The task should either have a finish date that is further out, like 2/9/19, if the task got delayed and could not be completed or the task should be marked complete if it was finished on 1/31/19. There were only three out of thirty projects that did not have at least one of these faults. The high number of instances and the large percentage of projects (90%) having these faults indicates that project managers are most likely not using their project schedules to help manage their projects rather they are simply filling out the information because it is required. This conclusion is drawn from the fact that if a project manager were actively using the project schedule to manage or drive the project, he or she would meticulously maintain these particular fields in order to know what tasks still needed to be completed. This initial evaluation indicates that there is still additional work to be done around educating project managers on the benefits of the tool, its uses, and the PMO standards.

Summary and Recommendations

The procurement and implementation of PWA has been able to immediately bring visibility of project activities into one centralized location. However, the outputs of the system are only as valuable as the information being entered into the system. As indicated in the initial Schedule Management Assessment, there is still significant work to be done in order to ensure standard utilization of the software and adherence to best practices.

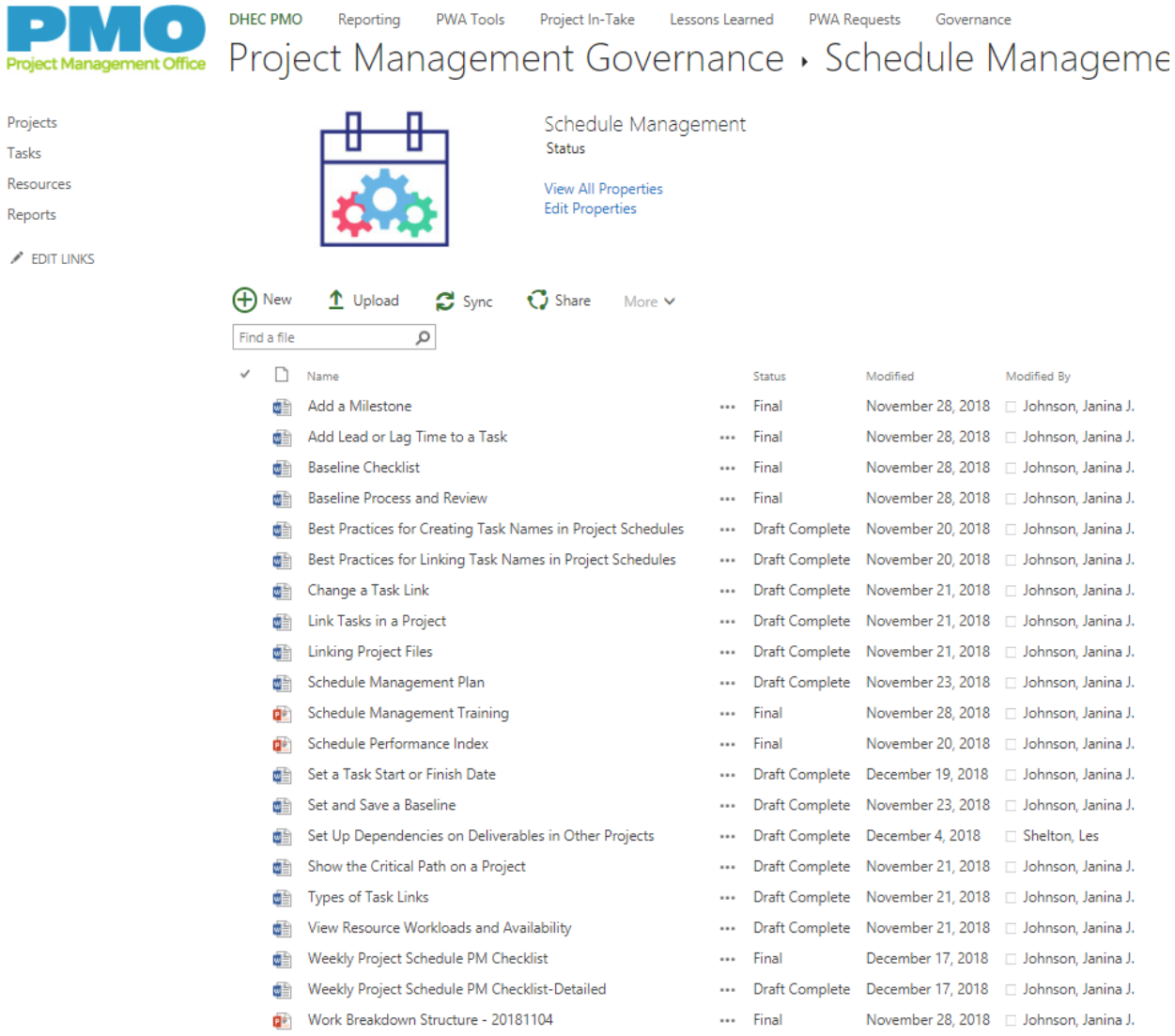
One next step is to provide individualized technical assistance and coaching in order to address the issues from the Schedule Management Quality Assessment. The goal is for each project manager to improve their project schedule(s) by the end of February. This will allow the schedules to meet the quality standards in order to be able to baseline all project schedules in early March. Only after all schedules and resources are updated will PMO be able to provide Agency leadership with accurate information about resources.

Another next step is to determine the frequency and method for continuing Schedule Management Quality assessments. Ideally, since all the fields needed for the report are captured within PWA, a dashboard could be created using Microsoft's Power BI software. This would allow reports to run in real-time. As the data becomes more available, decisions will need to be made about how to address non-compliance issues.

In order to streamline project reporting, a recommended next step is to gather requirements from key stakeholders about their project reporting needs. Once these needs are defined, PMO and IT staff can work together to create project and portfolio dashboards which pulls directly from the data within PWA. Unfortunately, until that step is completed, there may still be reports that project managers are creating for program areas. However, this project was able to reduce the number of reports being completed within the PMO.

Providing Schedule Management training and resources, hiring a Master Scheduler, and initiating Schedule Management Quality audits have proven to be extremely valuable in improving the management and monitoring of the Agency Roadmap projects.

Appendix 1 – List of Schedule Management Resources Created for Project Managers



Appendix 2 – Schedule Management Quality Indicators

Field	**What Does it Mean?**
Late Start	The project schedule has tasks which have not started by the start date even though the schedule says the task should have started.
Late Finish	The project schedule has tasks which have not finished even though the schedule says the task should have finished.
Manually Scheduled Tasks	The project schedule has tasks that aren't able to be scheduled by the tool based on input data.
Slipping	The project schedule has tasks that are not progressing as quickly as estimated.

Missing Predecessor	The project schedule has tasks that are not linked to another driving the dates of the current task.
Missing Successor	The project schedule has tasks that are not linked to another driving the dates of the successor task.
Missing Resources	The project schedule has tasks that are not resource loaded.
Milestones Not Marked	The project schedule has milestones which aren't labelled properly, or doesn’t have them titled as M:
Milestones with Duration	The project schedule has milestones with duration.
Milestones with Effort	The project schedule has milestones with work.
Deliverables Not Labelled	The project schedule doesn’t have links to the deliverables management list, or doesn’t have them titled as D:
Summary Tasks with Predecessors	The project schedule has predecessors marked on summary rows.
Summary Tasks with Successors	The project schedule has successors marked on summary rows.
Summary Tasks with Resources	The project schedule has resources marked on summary rows.
Completed Tasks with Remaining Work	The project schedule has tasks marked as complete, but there is work remaining.
Tasks over 40 hours	A task has more than 40 hours of associated work.